

**BILLION**

Powering communications  
with Security

## 2009 Product Guide



# Billion at a Glance

Billion Electric Co. Ltd. (TaieX: 3027, trading as BILLION), founded in Taiwan in 1973, is one of the leading providers of network equipment and power supply products in the Asia Pacific. With the establishment of its Communication Division, Billion has reinforced its commitment to develop next-generation network equipment and Internet access devices to meet the needs of home users, telecommuters, SOHOs and SMBs around the globe. "Powering Communications with Security" stands for Billion's attention to its customers' secure broadband communication needs. Billion defines its user-friendly product range by integrating new technologies into its existing product family, enabling its customers to benefit from Billion's compact design without the need to purchase extra hardware. Billion has received a number of awards for its networking products and has acquired a considerable customer base across Europe, America, the Middle East, Africa and the Asia Pacific. For more information, please visit [www.billion.com](http://www.billion.com).



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**Product Range**

# Wired



Products & Models	BiPAC 5200S	BiPAC 5200SRC	BiPAC 5210S	BiPAC 5210SRC	BiPAC 5200	BiPAC 7300RA	BiPAC 7800	BiPAC 7402 R2
ADSL2+	v	v	v	v	v	v	v	v
USB 1.1 port			1	1				
Ethernet switch	10/100Mbps							
LAN ports	1	1	1	1	4	4	4	4
Quality of Service						v	v	v
Firewall	v	v	v	v	v	v	v	v
Easy Sign On (EZSO)						v	v	v
Impulse noise protection for IPTV applications	v	v	v	v	v	v	v	v
IPSec VPN	pass through							16 tunnels
Remote management*	by request							
Target users	Home and SOHO							SOHO and Office

\* The specification of Remote Management on end-user devices is available only upon request for Telco/ISP projects.

# Wireless



Products & Models	BiPAC 5210SGRA	BiPAC 5200GRC	BiPAC 5200N	BiPAC 7300GRA	BiPAC 7300N	BiPAC 7800N	BiPAC 7402G
ADSL2+	v	v	v	v	v	v	v
USB 1.1 port	1						
Ethernet switch	10/100Mbps					10/100/ 1000Mbps	10/100Mbps
LAN Ports	1	4	4	4	4	4	4
802.11g with WPA/WPA2	v	v		v			v
802.11n with WPA/WPA2			v		v	v	
Wi-Fi Protected Setup			v		v	v	
Quality of Service				v	v	v	v
Easy Sign On (EZSO)				v	v	v	v
Firewall	v	v	v	v	v	v	v
Impulse noise protection for IPTV applications	v	v	v	v	v	v	v
IPSec VPN	pass through						16 tunnels
VPN with 3DES accelerator							v
Remote management*	by request						
Target users	Home and SOHO						SOHO and Office

Products & Models	BiPAC 3012G	BiPAC 3010N
USB 2.0 interface	v	v
WPA/WPA2	v	v
802.11b compliance	v	v
802.11g compliance	v	v
802.11n compliance		v
Universal Plug and Play (UPnP)	v	v
Soft AP function	v	v
Windows and Mac OS	v	v

\* The specification of Remote Management on end-user devices is available only upon request for Telco/ISP projects.

# 3G / HSDPA



Products & Models	BiPAC 7300GX	BiPAC 7402XL	BiPAC 7402X	BiPAC 7402GXL	BiPAC 7402GX	BiPAC 7402NXL	BiPAC 7402NX
ADSL2+	v	v	v	v	v	v	v
3G supported*	PCMCIA	USB 2.0 host					
Auto fail-over	v	v	v	v	v	v	v
LAN ports	4	4	4	4	4	4	4
Ethernet switch	10/100Mbps					10/100/1000Mbps	
802.11g with WPA/WPA2	v			v	v		
802.11n with WPA/WPA2						v	v
Wi-Fi Protected Setup	v			v	v	v	v
Quality of Service	v	v	v	v	v	v	v
Firewall	v	v	v	v	v	v	v
IPSec VPN	pass through		16 tunnels	pass through	16 tunnels	pass through	16 tunnels
Target users	Home and SOHO		SOHO and Office	Home and SOHO	SOHO and Office	Home and SOHO	SOHO and Office

\* A 3G cardbus or a 3G modem is available separately.

# What is 3G?

3G is the common name for third-generation digital mobile technology. It offers consistent services delivered via 3G/HSDPA, EDGE, or UMTS mobile telephony protocols. Compared to 1G (analog wireless technology) and 2G (digital radio wireless technology such as GPRS), 3G offers faster data transfer rates up to 14.4Mbps.

## Applications over 3G/ADSL networks

### At the desk

Enjoy all the benefits of high-speed ADSL connection right at your desk with the Dual-WAN 3G/ADSL2+ router series, offering a secure computing experience, with an integrated SPI firewall, DoS prevention and other robust security features.



### VPN security

With the integrated IPSec VPN function, the BiPAC 7402X series allows you to establish encrypted connections of up to 16 VPN tunnels over the Internet - so you can access your corporate intranet and transmit sensitive data between branch offices and remote sites anytime; even when you are on the road, thus enhancing productivity.



### Always-On connection

The auto-failover feature ensures maximum connectivity and minimum interruption by quickly and smoothly connecting to a 3G network in the event that the landline fails. The Dual-WAN 3G/ADSL2+ router series will then automatically return to the ADSL connection when it's restored, reducing connection costs. These features are perfect for office situations where a constant connection is paramount.



### On public transport

By installing the Dual-WAN 3G/ADSL2+ router series, public transport operators can update passengers with real-time weather and event information, updated regularly via a 3G Internet connection, or offer business travelers Internet access that can be billed to create greater income potential.



### In a meeting

The Dual-WAN 3G/ADSL2+ router series' innovative browser-based configuration allows you to quickly and easily set up a WLAN, so when you're at a meeting or training, your guests or participants can quickly and securely access the Internet via a 3G network to retrieve emails, share meeting minutes or training materials with their colleagues.



### At an event

When you're chilling out at a party or concert, the light-weight, portable Dual-WAN 3G/ADSL2+ router series frees you to instantly share your pictures or video clips of the event with friends and family -- so those close to you can share your joy.



# VoIP



Products & Models	BiPAC 6404VP	BiPAC 6404VGP	BiPAC 7401VGPR3	BiPAC 7401VGPX	BiPAC 7404VGPX	BiPAC 7404VGOX	BiPAC 7404VNPX	BiPAC 7404VNOX
ADSL2+	v	v	v	v	v	v	v	v
3G supported						USB 2.0 host		
Auto fail-over				v	v	v	v	v
LAN ports	3	3	4	4	4	4	4	4
Ethernet switch	10/100Mbps						10/100/1000Mbps	
FXS ports	2	2	1	1	2	2	2	2
FXO ports	1	1	1	1	1	1	1	1
Gateway - Least Cost Routing					v	v	v	v
802.11g with WPA/WPA2		v	v	v	v	v		
802.11n with WPA/WPA2							v	v
Wi-Fi Protected Setup			v	v	v	v	v	v
Quality of Service			v	v	v	v	v	v
Firewall	v	v	v	v	v	v	v	v
IPSec VPN	pass through					16 tunnels	pass through	16 tunnels
Target users	Home and SOHO					SOHO and Office	Home and SOHO	SOHO and Office



## VoIP Call Applications

Interested? Want to learn how a Billion ADSL VoIP router works, and enables you to make a call? We keep it simple using the diagrams below to guide you through.

### VoIP calls to/from VoIP



### VoIP calls to/from PSTN



### PSTN Fixed-line Support



## Advanced VoIP Router Application

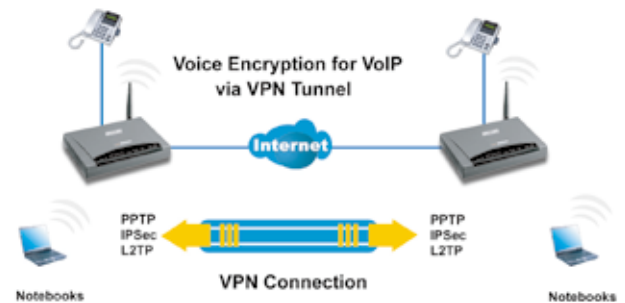
### Gateway - Least Cost Routing

Gateway - The Least Cost Routing feature allows to use the most economical rates offered provided by different Internet Telephony Service Providers (ITSPs).



### Secure Voice over VPN Tunnel

Three types of VPN solutions (PPTP, IPSec and L2TP within IPSec) allow office users to build secure VPN tunnels for voice and data communication between a company's head office and its branch(es).



# Home Networking



Products & Models	BiPAC 104 (2x BiPAC 2071 incl.)	BiPAC P106 (2x BiPAC 2073 incl.)	BiPAC 2070P	BiPAC 2072	BiPAC 2073N (available in Q3)	BiPAC 2074 (available in Q2)
Type	Wall mounted		Desktop		Wall mounted	Desktop
Powerline data rate	200Mbps					
Minimal power saving at standby mode	60%	50%		60%	50%	50%
Maximal power saving at full operation		20%			20%	20%
AC Power Supply			v			
LAN ports	1	1	1	1	1	1
Ethernet switch	10/100 Mbps					
Wi-Fi 802.11n					v	
AC Pass-through socket				1		1
Quality of Service	v	v	v	v	v	v
Target users	Home and SOHO					

## Highlights

### AC Pass Through with Noise Filtering



Even at the moment your family turn on an electronic device or turns off a light, you won't experience any interruption to latency-sensitive applications such as multimedia or video being shared with your family in another room.

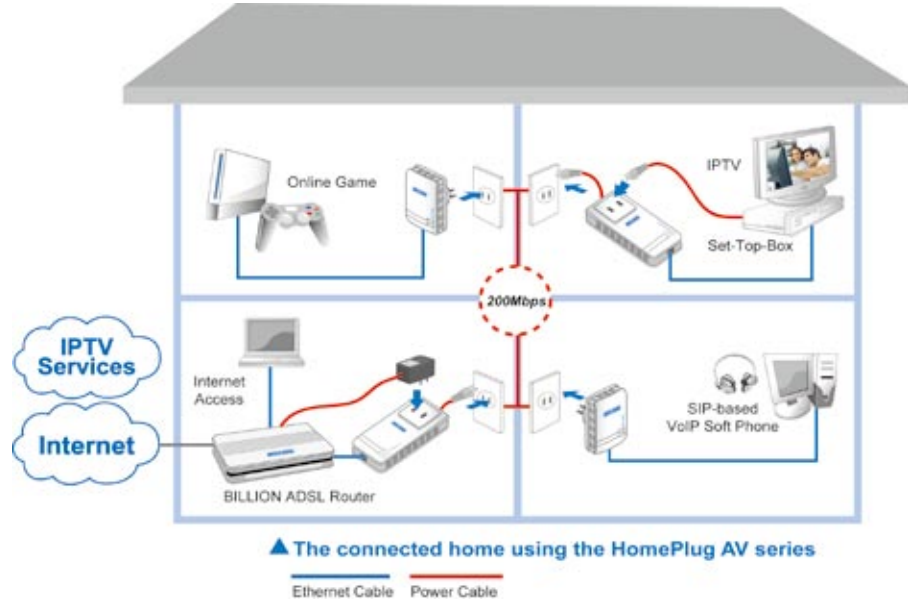


With noise filtering, the BiPAC 2072 / 2074 enhances power-line communications coverage and those appliances will not be able to interfere with the data transmission quality.

### Power Saving



If no Ethernet device is being used, the HomePlug AV series will automatically go into sleep mode, which cuts power consumption by at least 60%, increasing energy efficiency and save money on your electricity bill.



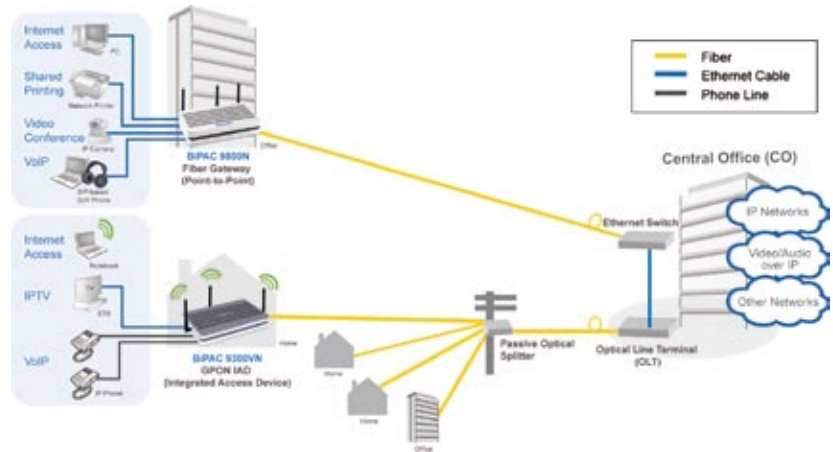
# GPON / Fiber



Products & Models	BiPAC 9800N	BiPAC 9300VN
Point-to-Point over Fiber (EFM*-Fiber)	v	
Point-to-multipoint Gigabit over Fiber (GPON)		v
Ethernet switch (LAN ports)	4 x 10/100/1000Mbps	4 x 10/100/1000Mbps
Quality of Service	v	v
Firewall	v	v
VoIP		2 x FXS ports
Easy Sign On (EZSO)	v	v
IPSec VPN		v
Remote management	by request*	OMCI*
Target users	SOHO & Office	Home, SOHO & Office

A **Gigabit Passive Optical Network (GPON)** is a point-to-multipoint, fiber to the premises network architecture in which unpowered optical splitters are used to enable a single optical fiber to serve multiple premises.

A GPON consists of an Optical Line Terminal (OLT) at the service provider's central office and a number of Optical Network Units (ONUs) near end users. A GPON configuration reduces the amount of fiber and central office equipment required compared with point-to-point over fiber (EFM\*-Fiber) architecture. GPON has a maximum downstream rate of up to 2.5Gbps and upstream rates are around 1.244Gbps.



\*EFM: Ethernet in the First Mile

\*OMCI: ONT Management and Control Interface

\*The specification of remote management on end-user devices is available only upon request for Telco/ISP projects.

# VDSL2

## What is VDSL2?

- VDSL2 is a Very-High-Bit-Rate Digital Subscriber Line, next-generation DSL technology
- Fiber optic lines as backbone and VDSL2 line as the last mile to home or office
- For bandwidth-consuming applications such as voice, video-on-demand and IPTV services
- Fulfills the vision of the digital home and improves office productivity



Products & Models	BIPAC 8200M (available in Q2)	BIPAC 8200N (available in Q3)
VDSL2 profile	8a/b, 12a,17a, 30a	8a/b, 12a,17a, 30a
Band plan 997 & 998	v	v
Supports 2/3/4/5/6 band	v	v
Downstream	100Mbps	100Mbps
Upstream	100Mbps	100Mbps
Ethernet switch	10/100Mbps	10/100Mbps
LAN ports	4	4
Wi-Fi 802.11n		v
Firewall		v
Router		v
Target users	Home & SOHO	

# Switch



## BiPAC GS08

### 8-port Gigabit Green Ethernet Switch

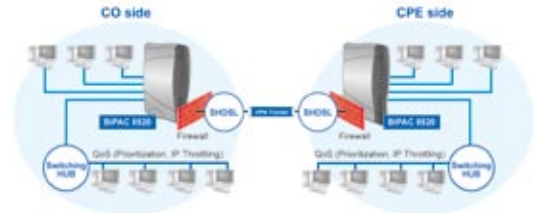
- 8 x 10/100/1000Mbps Full-duplex, auto MDI/MDI-X ports
- Up to a total 16Gbps network data transfer rate
- Smart power saving technology for efficient energy consumption
- Store-and-forward architecture for low-latency and error-free transmission
- NWay protocol for speed and duplex mode auto-detection
- True plug and play installation
- Ideal for home and SOHO users



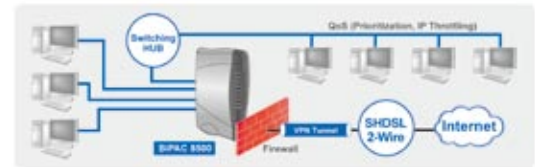
# SHDSL



Products & Models	BiPAC 8500	BiPAC 8520	BiPAC 8501	BiPAC 8501R2	BiPAC 8521
SHDSL	2.3Mbps	4.6Mbps			
SHDSL.bis			5.7Mbps	5.7Mbps	11.4Mbps
WAN ports	1	2	1	1	2
LAN ports	4				
Ethernet switch	10/100Mbps				
Back-to-back connectivity	v	v		v	v
Quality of Service	v	v	v	v	v
Firewall	v	v	v	v	v
IPSec VPN	v	v	v		
Target users	SOHO and Office				



▲ Back-to-Back Connectivity



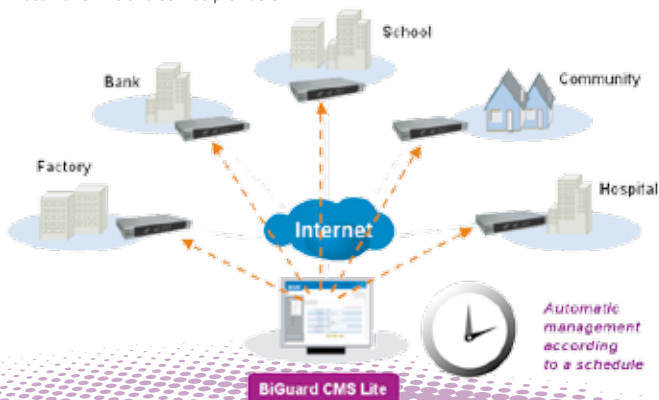
▲ Application Diagrams

# Central Management System



## BiGuard CMS Lite

- Native HTML/HTTPS interface between the remote device and BiGuard CMS
- Data encryption and ID/password authentication for secure management
- No client installation needed
- Web-based user interface
- Supports PostgreSQL
- Firmware upgrade for single/grouped devices on demand or according to a schedule
- Configuration backup for single/grouped devices on demand or at regular time intervals
- Configuration restoration
- Device connectivity checking
- MS-IE to management device
- Event logs of BiGuard CMS actions
- Supports BiGuard SSL VPN series security appliances
- Supports different levels of central management :10, 20, 30 devices
- Database backup and restoration (not available in Evaluation version)
- Ideal for SMBs and service providers



## BiGuard CMS Pro

- XML/HTTPS interface between the remote device and BiGuard CMS
- Data encryption and CMS server authentication by remote device for secure management
- No client installation needed
- Web-based user interface
- Automatic device discovery
- Remote configuration management
- Supports database backup and restoration (not available in Evaluation version)
- Firmware upgrade for single/grouped devices on demand or according to a schedule
- Configuration backup for single/grouped devices on demand or at regular time intervals
- Configuration restoration
- Device connectivity check
- Device model auto-detection
- Fault management
- Real time monitoring and alerts
- Email alert upon emergency event
- Statistics and log reports
- Security – account management by access level for CMS
- Supports BiGuard SSL VPN series security appliances
- Supports different levels of device management :10, 30, 60, and 120; central management for 120 above devices is provided with project-based version upon request for Telco and ISPs.
- Ideal for SMBs and service providers

# SSL VPN Gateways



Products & Models	BiGuard S5	BiGuard S10	BiGuard S20	BiGuard S100N	BiGuard S3000	BiGuard S6000
Concurrent SSL users	5 ~ 20	10 ~ 20	20	10 ~ 30	10 ~ 50	50 ~ 200
IPSec VPN tunnels		10	30	10	30	30
WAN ports	1 x 10/100Mbps	1 x 10/100Mbps	2 x 10/100Mbps	1 x 10/100/1000 Mbps	2 x 10/100/1000 Mbps	2 x 10/100/1000 Mbps
LAN ports	4 x 10/100Mbps	4 x 10/100Mbps	8 x 10/100 Mbps 1 x 10/100/1000 Mbps	4 x 10/100/1000 Mbps	8 x 10/100/1000 Mbps	8 x 10/100/1000 Mbps
High Availability (HA)					v	v
Load balancing & auto fail-over			v		v	v
Site to Site SSL VPN*	v	v	v	v	v	v
802.11n with WPA/ WPA2, WPS				v		
Wireless Network Access Control (NAC)				v		
3G supported				v*		
Smart Power Saving				v		
Wake On LAN (WOL)	v	v	v	v	v	v
QoS and firewall	v	v	v	v	v	v
Host security checking	v	v	v	v	v	v
End Point Security (EPS) checking				v*	v	v
AD account membership				v*	v	v
Rack mountable	v	v	v		v	v
Target users	SMB up to 50 staff		SMB 50 to 200 staff		SME 200 to 500 staff	SME 500 to 1,000 staff

\* to be available

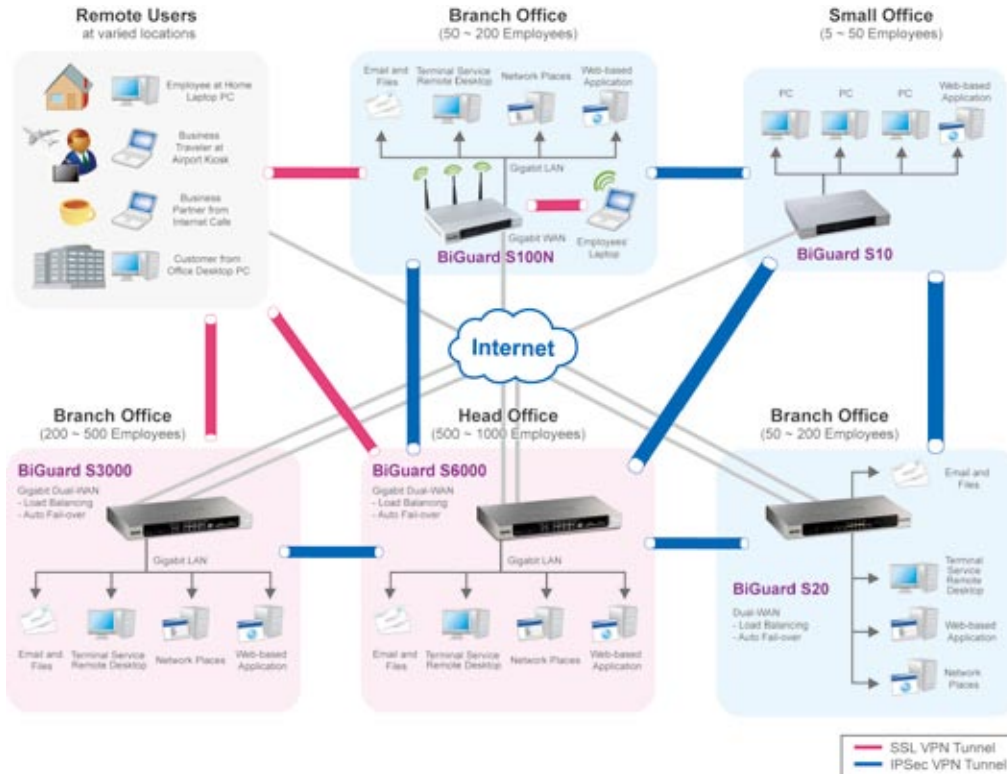
## What's Unique about a SSL VPN Gateway?

- SSL VPN gateway plus solid router functions
- Network / Transport Extender
- Application Proxy
- Network Places
- Green Smart Power Saving
- Host security checking
- Firewall security
- Microsoft Windows Mobile 5.0 / 6.0 compatible mobile devices support
- Wake On LAN (WOL)
- Data encryption and user authentication
- Supports Citrix
- Supports ERP applications
- Windows / Linux / Macintosh support
- Hardware DMZ support
- Granular access policy management
- Personalized web portal
- Quality of Service





# Network Application with SMB Security Appliances



## Other Options:



### ■ BiGuard One-Time Password

- One-Time Password for multiple applications
- Ease of use anywhere at any time

### ■ BiGuard SSL VPN Tunnel Upgrades

- Increases more SSL VPN tunnels by upgrading existing devices

### ■ Feature and Firmware Upgrades

### ■ BillionCare

Superb services that are applicable to BiGuard S3000 and BiGuard S6000 models include 2 kinds :

- Advanced Hardware Replacement
- Feature and Firmware Upgrades

# IPSec VPN Gateways



Products & Models	BiGuard 2	BiGuard 10	BiGuard 30	BiGuard 50G
WAN ports	1 x 10/100Mbps	1 x 10/100Mbps	2 x 10/100Mbps	2 x 10/100Mbps
LAN ports	8 x 10/100Mbps	8 x 10/100Mbps	8 x 10/100Mbps	4 x 10/100Mbps
Load balancing & auto fail-over			v	v
IPSec VPN / PPTP VPN tunnels	2 / 4	10 / 4	30 / 4	50 / 32
802.11g with WPA/WPA2				v
SIP pass-through	v	v	v	v
E-mail alerts and logs of attacks	v	v	v	v
DMZ support	v	v	v	v
Quality of Service	v	v	v	v
Traffic management	v	v	v	v
Firewall	v	v	v	v
WAN IP alias	v	v	v	v
Rack mountable		v	v	v
Target users	SOHO & branch offices	SMB	SMB	SMB

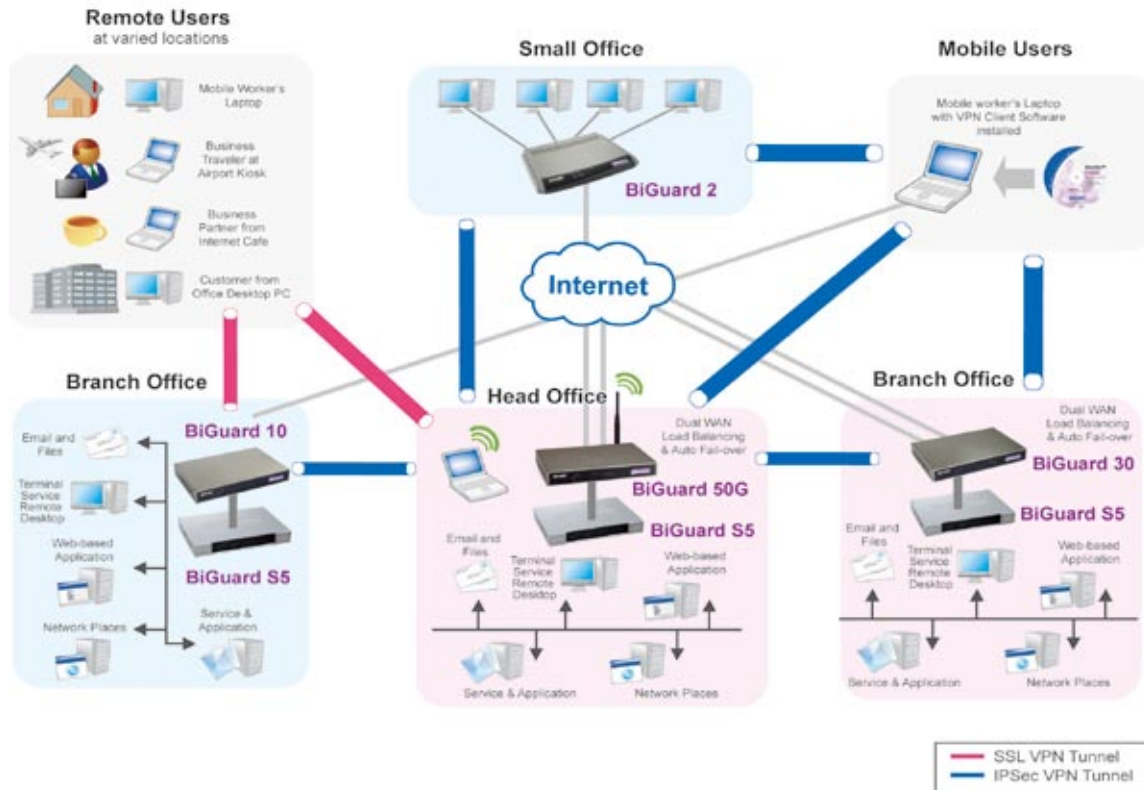


## BiGuard C01

### BiGuard IPSec VPN Client Software

- Use USB Stick to store VPN security elements
- IPSec VPN tunneling with DES/3DES/AES encryption
- IKE Key management
- Point-to-Point tunnel
- VPN configuration wizard
- Multiple profiles
- USB Sticker to store configuration and auto-connection
- Support all Microsoft OS (Windows 2000, Server 2003, XP, Vista 32-bit, Vista 64-bit)
- DPD (Dead Peer Detection) and redundant gateway
- Support all Billion VPN-enabled devices such as BiGuard, BiPAC 85xx, BiPAC 74xx
- Ideal for telecommuters and office users

# Network Application with SMB Security Appliances





Australia	India	Norway	Turkey
Belarus	Indonesia	Russia	U.A.E.
Belgium	Iran	Philippines	U.K.
Bolivia	Israel	Slovenia	Ukraine
Brazil	Italy	Singapore	U.S.A.
China	Kazakhstan	South Africa	Vietnam
Denmark	Malaysia	Spain	Yemen
Egypt	Morocco	Sweden	
Germany	Nepal	Taiwan	
Hong Kong	Netherlands	Thailand	

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